



File Code: 3413

Date: July 17 – July 21, 2017

Subject: Trip report – Allegheny National Forest Exotic Earthworm Survey

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The sampling technique used for this survey was the liquid extraction method, as described by Cindy Hale in “Earthworms of the Great Lakes” pages 24-25. This involved using a liquid mustard solution. The mustard solution was poured on the ground in a 35cm X 35cm square. The mustard solution is an irritant to the earthworms and causes the earthworms to come to the surface, thus making it possible to collect them. The mustard solution was 40 grams of ground yellow mustard seed to four liters of water.

Before pouring the mustard solution on the sampling area, the leaf litter depth was measured in millimeters and species of overstory trees were recorded. Then the area was cleared of any debris and leaf litter, including a few centimeters beyond the 35cm square. The mustard solution was then be poured slowly over the sample area. After the solution had time to soak in, worms began to come out of the ground (Provided worms were present). The earthworms were collected and put into a temporary container. When the initial emergence of worms slowed or stopped, we poured more of the mustard solution onto the surface. We did this two or three times until solution was gone.



Figure 1. Earthworm sampling.

The earthworms were preserved for identification by the method described by Cindy Hale in “Earthworms of the Great Lakes” page 25. The collected earthworms were anesthetized in isopropyl alcohol. These worms were placed in a leak proof vial and covered in formalin and soaked for at least 24 hours. Then the worms were transferred to another vial and covered with alcohol for long term storage.



This survey occurred at approximately 97 sites on the ANF and Cornplanter State Forest (see inserted map) and 58 sites were positive for earthworms. The data has not been analyzed yet, but a total of over 450 earthworms were collected.

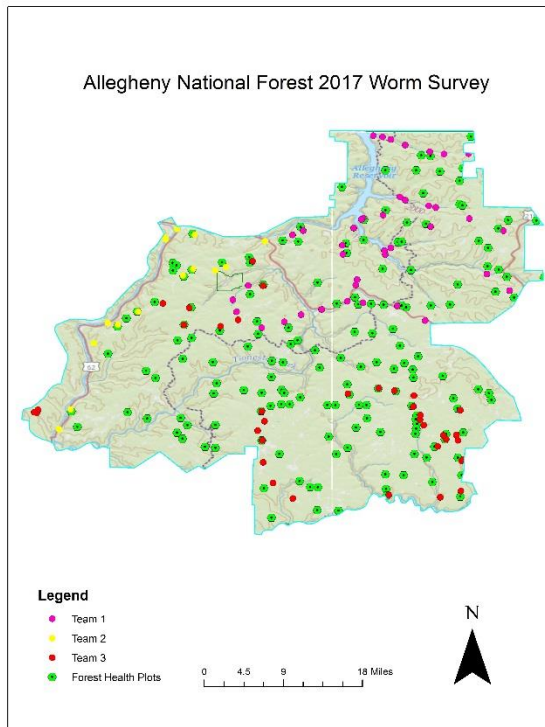


Figure 2. Some Earthworm sampling locations.

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